

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V DRAFT PERMIT V-06-011
FLEXCEL-FORDSVILLE
FORDSVILLE, KENTUCKY
MARCH 3, 2006
RALPH L. GOUGE, PERMIT REVIEWER
PLANT ID #21-183-00039
ACTIVITY ID #APE20020001
AI #3300

SOURCE DESCRIPTION:

Flexcel, formally Kimball Office Casegoods, has applied to the Division for Air Quality for a renewal of their Title V operating permit, #V-97-007, for the operation of a wooden furniture manufacturing plant in Fordsville, Kentucky. This operation involves woodworking, assembly, and application of various finishes to the wood. The woodworking portion of the operation is tied to a dust collection system, which operates above 90% efficiency, resulting in a very small amount of particulate emissions. Each spray booth utilizes a filter or a water pan, which controls particulate emissions. Finish materials contain the bulk of pollutants for this source in the form of VOC's.

The original Title V permit, issued in August 1997, was for the operation of a woodworking department and three finish lines, consisting of twenty (20) spray booths and five (5) drying ovens. There are also two boilers, which are used for heating the building. Since the issuance of the Title V permit, *flexcel* has added two (2) dust collectors to their woodworking operation; however, there has been no major construction/modification at the source.

The woodworking department uses various turners, borers, cutters, shapers, and sanders to craft raw lumber into furniture pieces. Particulate generated is collected in a baghouse and then disposed of by landfilling. Baghouse efficiency is near 100 percent due to the very small amount of particulate. The furniture pieces are subsequently assembled using a waterbased glue and sent to the finish lines.

The spray booths and drying ovens are used to apply and cure finishes on the assembled furniture. Each booth utilizes a water curtain or a fabric filter, with an estimated efficiency of 80 percent, to control particulate emissions. The booths each have multiple spray guns, which may be airless, air assisted or High Volume Low Pressure (HVLP) type guns. Overspray is estimated to be 60 percent, on average. Finish materials contain the bulk of pollutants for this source in the form of volatile organic compounds (VOC's). These are the chemicals that evaporate into the air as the finishes are drying. There is no control on VOC emissions. All of the coatings used are compliant with National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines as detailed in 40 CFR 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations.

The original Title V permit was issued under the name Kimball Office Casegoods Manufacturing Company. However, Kimball sent a letter requesting a name change in March 2003. Per the 2002 emissions inventory survey, the source name was changed to *flexcel*-Fordsville in May 2003.

COMMENTS:

A toxics analysis was performed using the SCREEN3 model. *flexcel* was modeled as a point source, at distances from 100 meters to 1,000 meters away from the emission point. Based on an emission rate of 1.0 gram/second, the maximum 1-hour concentration was 161.4 $\mu\text{g}/\text{m}^3$ at a distance of 692 meters. The calculated concentrations of all of the air toxics at the source are below the levels specified by the Office of Air Quality Planning and Standards (OAQPS).

EMISSION AND OPERATING CAPS:

The company started in 1973, with only finish line #1, which they agreed to limit to less than 249 tons per year of VOC emissions in order to maintain minor source status in regard to 401 KAR 51:017, Prevention of Significant Deterioration (PSD). Finish line #2 was added in 1983 and was also limited to less than 249 tons per year of VOC emissions, thus making it a minor addition. Finish line #3 was constructed in 1996 and limited to less than 40 tons per year of VOC emissions, in order to qualify as a minor addition, as well. The company has elected to adhere to these limits in order to avoid applicability of 401 KAR 51:017, Prevention of Significant Deterioration of Air Quality (PSD).

In accordance with Cabinet policy, the VOC limits for this source have been reduced. As a condition for synthetic minor classification, this Title V permit renewal will limit VOC emissions from finish line #1 [(emission point 24(2-6))] and finish line #2 [emission point 26(7-11, 14-18)] to 249 tons per year per line, for any 12 consecutive months. Finish line #3 [emission point 25(30, 31, 32, 34, 35)] VOC emissions will be limited to 37.5 tons for any 365 consecutive days.

EMISSION FACTORS:

AP-42

VOC emissions are assumed to be 100 percent of the VOC content of raw materials.

According to AP-42, an emission factor for woodworking with a baghouse collection system does not exist because the emissions are negligible; therefore, the control efficiency is assumed to be above 99%.

APPLICABLE REGULATIONS:

40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations, applies to each affected facility that is engaged in the manufacture of wood furniture or wood furniture components and that is located at a plant site that is a major source as defined in 40 CFR part 63, subpart A, §63.2.

401 KAR 50:012, General Application of Administrative Regulations and Standards.

401 KAR 59:010, New Process Operations, applies to each affected facility commenced on or after July 2, 1975, with respect to particulate emissions, specifically finish lines 1 and 2.

401 KAR 59:015, New Indirect Heat Exchangers, applies to each affected facility, commenced on or after April 9, 1972, with a capacity of 250 million BTU per hour heat input or less with respect to particulate and sulfur dioxide emissions, specifically emission point 20 and 21, which are the boilers that are used for heating, and emission points 4A, 6A, 7A, 9A, and 36, which are the drying ovens.

401 KAR 61:020, Existing Process Operations, applies to each affected facility commenced before July 2, 1975, with respect to particulate emissions, specifically finish line 3.

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to each affected facility that emits or may emit potentially hazardous matter or toxic substances.

NESHAP REQUIREMENTS:

flexcel is in compliance with the operating limitations, record keeping requirements, and reporting requirements specified in 40 CFR 63, Subpart JJ.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.